

IN THE CLAIMS

1. (Currently Amended) A disk array controller comprising:

a host switch interface section that is connected to a host computer;

a plurality of respective disk array controlling units that are provided with a channel interface section interfacing with said host switch interface section, a disc interface section that is connected to a magnetic disc unit and a cache memory section that temporarily stores data as read out of or written into said magnetic disc unit; and

a mutual connection network in connection with the channel interface sections, the disc interface sections and the cache memory sections of said disk array controlling units,

wherein said cache memory sections perform a transfer of the data with the channel interface sections of said respective disk array controlling units,

wherein in case of transferring a copy of data stored in said magnetic disc unit which is associated with ~~said~~a first disk array controlling unit included in said plurality of disk array controlling units, from said first disk array controlling unit to a second disk array controlling unit included in said plurality of disk array controlling units,

said first disk array controlling unit performs a transfer of said copy of data via said mutual connection network, not via said host switch interface section, and

wherein said host switch interface section selects a relay destination for data which is sent from said host computer to said cache memory section in said first disk array controlling unit, from the channel interface section in said first disk array controlling unit, the channel interface section in said second disk array controlling unit, or the channel interface section in another disk array controlling unit included in said plurality of disk array controlling units other than said first and second disk array controlling units, in accordance with ~~operational~~ load conditions of a path to said cache memory section in said first disk array controlling unit through said first disk array controlling unit, through said second disk array controlling unit, and through said another disk array controlling unit included in said plurality of disk array controlling units.

2. (Previously Presented) A disk array controller according to claim 1 wherein said host switch interface section is provided with a management table that selects a data transfer path according to an address as requested by the host computer.

3. (Previously Presented) A disk array controller according to claim 2 wherein said data transfer path is a path between said host switch interface section and the channel interface sections of said respective disk array controlling units.

4. (Previously Presented) A disk array controller according to claim 2 wherein said management table is provided with a path selection table with candidates for the data transfer path in response to said address and a history information table in which respective data transfer paths are weighted according to a data volume thereof, wherein the specific path is selected on the basis of information of said history information table among the respective data transfer paths as selected by said path selection table.

5. (Previously Presented) A disk array controller according to claim 1 wherein one part of the respective disk array controlling units is provided with higher-speed cache memory sections than other parts thereof.

6. (Previously Presented) A disk array controller according to claim 2 wherein said respective disk array

controlling units are provided with a resource management section that manages an operating ratio of the resources thereof and reports said operating ratio through an operating ratio report signal to said host switch interface section, wherein said management table is provided with a path selection table with candidates for respective data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted based on said operating ratio report signal, wherein the specific path is selected based on information of said history table among the respective data transfer paths as selected by said path selection table.

7. (Currently Amended) A disk array controller comprising:

a host switch interface section that is connected to a host computer;

a plurality of respective disk array controlling units that are provided with a channel interface section interfacing with said host switch interface section, a disc interface section that is connected to a magnetic disc unit and a cache memory section that temporarily stores data as read out of or written into said magnetic disc unit;

a first mutual connection network in connection with the channel interface sections, the disc interface sections and the cache memory sections of said respective disk array controlling units; and

a second mutual connection network in connection with said host interface section and the channel interface sections of said respective disk array controlling units,

wherein said cache memory sections perform a transfer of the data with the channel interface sections of said respective disk array controlling units,

wherein in case of transferring a copy of data stored in said magnetic disk unit which is associated with ~~said~~ a first disk array controlling unit included in said plurality of disk array controlling units, from said first disk array controlling unit to a second disk array controlling unit included in said plurality of disk array controlling units,

said first disk array controlling unit performs a transfer of said copy of data via said first mutual connection network, not via said host switch interface section, and

wherein said host switch interface section selects a relay destination for data which is sent from said host computer to said cache memory section in said first disk array controlling unit, from the channel interface section in said first disk array controlling unit, the channel interface

section in said second disk array controlling unit, or the channel interface section in another disk array controlling unit included in said plurality of disk array controlling units other than said first and second disk controlling units, in accordance with ~~operational~~ load conditions of a path to said cache memory section in said first disk array controlling unit through said first disk array controlling unit, through said second disk array controlling unit, and through said another disk array controlling unit included in said plurality of disk array controlling units.

8. (Previously Presented) A disk array controller according to claim 7 wherein said host switch interface section is provided with a management table to select a data transfer path according to an address as requested by the host computer.

9. (Previously Presented) A disk array controller according to claim 8 wherein said data transfer path is a path between said second mutual connection network and the channel interface sections of said respective disk array controlling units.

10. (Previously Presented) A disk array controller according to claim 8 wherein said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which respective data transfer paths are weighted according to a data volume thereof, wherein the specific path is selected according to information of said history table among the respective data transfer paths as selected by said path selection table.

11. (Previously Presented) A disk array controller according to claim 7 wherein one part of the disk array controlling units is provided with higher-speed cache memory sections than other parts thereof.

12. (Previously Presented) A disk array controller according to claim 8 wherein the respective disk array controlling units are provided with a resource management section that manages an operating ratio of the resources thereof and reports said operating ratio through an operating ratio report signal to said host switch interface section, wherein said management table is provided with a path selection table with candidates for respective data transfer paths in response to said address and a history information

table in which the respective data transfer paths are weighted according to said operating ratio report signal, wherein the specific path is selected according to information of said history table among the respective data transfer paths as selected by said path selection table.